DOCUMENT RESUME

ED 457 735 HE 034 388

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TITLE Diagnosing Student Support Needs for Distance Learning. AIR 2001 Annual Forum Paper.
PUB DATE 2001-00-00
NOTE 24p.; Paper presented at the Annual Meeting of the Association for Institutional Research (41st, Long Beach, CA, June 3-6, 2001).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Distance Education; *Educational Planning; Foreign Countries; Higher Education; *Needs Assessment; Student Needs
IDENTIFIERS England; *Student Support Services; United States

ABSTRACT

This paper continues previous research (N. Moreland and R. Carnwell, 2000) in which the development and background of the Learning Support Needs Questionnaire (LSNQ) were explained. The LSNQ identifies and elicits practical, emotional, and academic learning support needs, and is followed by an action planning process designed to assist the students to address learning needs considered important to student academic success but not met sufficiently. The LSNQ questionnaire was administered to two groups of distributed learning students, one enrolled in an institution in the United States (n=211) and one from the United Kingdom (n=126). While the distance education students in the United States had overall higher expectations of the different types of support than their peers in the United Kingdom, both groups had significant but slightly different learning support needs. The failure to address the significant unmet learning needs by both the learners themselves and the providing institutions is likely to lead to unsatisfactory learning experiences, reduced achievements, and perhaps, student attrition. (Contains 3 tables and 29 references.) (SLD)

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ED 457 735

Diagnosing Student Support Needs for Distance Learning

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Abstract

This article is a continuation of previous research (Moreland and Carnwell, 2000) wherein the development and background of the Learning Support Needs Questionnaire (LSNQ) was explained. The LSNQ identifies and elicits practical, emotional and academic learning support needs, and is followed by an action planning process designed to assist the students to address learning needs considered important to student academic success, but not met sufficiently.

This article presents the results of an application of the LSNQ questionnaire to two groups of distributed learning students – one group enrolled in an institution in the United States and one group of students from the United Kingdom. While the distance education students studying in the United States had overall higher expectations of the different types of support than their peers in the United Kingdom, both groups had significant but slightly different learning support needs. The failure to address the significant unmet learning needs by both the learners themselves and the providing institutions is likely to lead to unsatisfactory learning experiences, reduced achievements, and perhaps attrition.

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Introduction

Recently, there has been heightened interest in coilaborating on research in the area of learning support needs (Carnwell and Moreland, 1997; Moreland and Carnwell, 1998, 2000). While research to date has been focused primarily on distance education students, and in particular, nurses following courses presented in distance learning formats (Internet-based, two way interactive video, videotape, CD-ROM), limited attention has been directed to the applicability of such research to campus-based students (Carnwell and Moreland, 1997). To test this assumption, Harrington and Carnwell (2001) utilized the Learning Support Needs Questionnaire (LSNQ) to compare student characteristics at campuses in the United States and United Kingdom.

This article provides details of a first comparison of the learning support needs of distributed learning students enrolled primarily in courses in nursing and allied health students in one American and one English university. Before we provide and discuss the results of this initial comparative analysis of the learning support needs of distance learning students, there is some necessity to reprise and extend the explanation of the LSNQ that was devised based upon earlier research by Carnwell (1998). The development of the LSNQ, and the related assumptions enjoined in the development of the LSNQ are provided in an earlier related article (Moreland and Carnwell, 2000). None the less, a brief overview of the key aspects is useful here, and is provided below. After the explanation of the background to the LSNQ, discussion of the findings arising from the comparison of the LSQN with distance education students is provided.

The Background to the Learning Support Needs Questionnaire

Part one of this article provides an overall explanation of the LSNQ, which reiterates the main points below by way of an extended introduction. At the same time, extension of the argument by additional discussion of relevant topics such as defining support and connectedness and the concept of need and its relation to cultural capital of the students is addressed. Significant issues of learning support found in related literature are also

highlighted. In summation, we provide and discuss the findings from our comparative investigation of distance learner students.

Defining support

There is considerable literature examining support in relation to distance learning including definitions of support and techniques of providing support. Support tends to be defined in terms of its constituents. Support components have been variously defined as *activities* that enable students to progress satisfactorily (Bailey and Moore, 1989), *strategies*, such as cognitive, affective, metacognitive and motivational (Lebel, 1989), and *skills* such as informing, advising, counselling, assessing, enabling and feeding back (Vowles, 1990).

Other published work on support for distance learning makes assumptions about the nature of support, rather than defining the concept. Simpson (1993), for example, discussed the importance of quality standards and assessing quality of student support, but failed to define the concept of support, or consider the nature of support needs for distance learning students. Our research draws on all three of the above constituents. The action plan section of the Learning Support Needs Questionnaire (LSNQ) involves the student in activities and strategies that enable them to progress, while the items in section one of the instrument provide academic advisors and faculty with information that will assist then to advise, counsel and assess students more accurately.

Support and connectedness

A major focus of the literature relating to support in distance learning is on the distance learning process itself, rather than the *support needs* of students. These include use of text devices, such as illustrations in learning materials (Martens et al., 1996), technological innovation (Harrison, 1997; Kommers et al. 1998) and provision of information (Johnson, 1999) to support learning. Galusha, on the basis of a literature review, found that lack of support services such as academic advisors, faculty, and technical assistance is one of a number of insecurities that beset distance learners, and that this lack of support might affect motivation. Support, however, is arguably a bi-product of these processes, rather than a means of *connecting* the student to the facilities available. It is this *connectedness* that is important to

the development of this work. Earlier research identified dialogue, both internal to the course and student and external to the course and student (i.e. with other students and faculty) as important in making the connection between students and the learning processes (Carnwell, 1999).

Stark and Warne (1999) also identified connectedness in their study of 70 students (mainly mature nurses) using focus group interviews. Opportunities to have dialogue with or to 'connect' with university faculty were limited to face-to-face tutorials, telephone calls, and submission of written work assessments. The study and support issues raised by Stark and Warne (1999) therefore bear similarity to our study. Their interviews with students revealed that students felt 'disconnected' from the institution and that this led them to divert their energies towards family commitments.

Student expectations of faculty indicated a desire that faculty should be interested in the students as individuals and provide reassurance, support, advice and motivation. Interviews with faculty revealed that they too considered that some students felt 'disconnected' from the University, and that this affected the quality of their assignments. Other comments from faculty included: the need students had to know what faculty (as evaluators) would be looking for in their assignments; contact numbers to provide reassurance; supportive hand-outs to take away, and an opportunity to network and 'connect' with other students who had similar feelings (Stark and Warne, 1999).

Faculty commented that feelings of disconnectedness might be due to an institutional emphasis on course content rather than the student, which the authors argue, dehumanizes the learning experience and creates dependence. The concept of 'connectedness' itself was sub-divided into three themes: continuity (i.e. course faculty meeting with students at each study day), structure (university regulations, dates and deadlines), and a 'human touch' (genuineness, caring and commitment to students). If these aspects of connectedness are realized, disconnectedness may be significantly reduced if not abolished. Additionally, disconnection from the educational institution may also be avoided by a problem-solving and caring approach to students experiencing isolation (Lawton, 1997).

Lawton (1997) attempts to address issues of connectedness by developing a theoretical model of supportive learning in which the student-faculty relationship relies on regular personal contact. Lawton identifies four variables within this relationship: the student variable (eg. self-confidence and independent learning skills), the student-student variable (eg. networking), the faculty variable (being knowledgeable, adaptable, available, credible) and the course content variable (eg. provision of pre-course information and joint planning of individual programs of study).

Within the context of these four variables, the student and faculty move through three phases of a relationship – the meeting phase, the guiding phase, and finally the 'moving on' phase (Lawton, 1997). This model arguably relies on these four variables interacting successfully so that the student can 'connect' with the learning process. If just one variable was deficient (eg. delayed pre-course information) then connectedness could be affected unless the deficiency is compensated for by the other variables. Within this model, therefore, the responsibility for providing support relies predominantly within the institution. While an institution does have responsibilities, we believe that students too have responsibilities for their own learning, which is the main assumption underlying the action planning component of the LSQN.

Conceptualizing need

The concept of support and its relationship to connectedness between students and faculty was fundamental to the development of the Learning Support Needs Questionnaire. So too, however, are the ways in which students conceptualize 'need'. In the original research that began their subsequent research on learning support needs (Carnwell, 1998), students provided reflective data that enabled the conceptualization and differentiation of three different types of learning support need that were subsequently labelled as practical, emotional and academic support. It is recognized that the process of identifying needs is both a creative as well as an inferential process (Scissons, 1982). That is, the very process of completing the LSNQ may cause students to identify learning support needs that they had previously not been aware of or not previously articulated. Indeed, we are very conscious of the comment made by Scissons (1982: 27) that, " Researchers and programmers alike should be aware of the possibility that the identification of need is dependent on how each need is defined. This is very important in attempting to compare needs identified under different definitions. What you define may well be what you get."

The types and content definition of the learning support need categories contained in the LSNQ were derived from original data collected during intensive and extensive interview discussions with students following distance learning modules in nurse education (Carnwell, 1998). At the same time, given the numbers of respondents involved to date, we realize the necessity to continue to develop and validate our concepts and preferred elicitation tool.

The process of identifying learning support needs is inferential, in the sense that the LSNQ invites students to consider a number of forms in which each category of learning support need (practical, emotional and academic) manifests itself. As Scissons again notes, "Needs are not so much identified as they are inferred on the basis of philosophical orientation, practical situational variables, and available information." (Scissons, 1982: 21)

As has already been noted, three types of support emerged from this study: academic support, emotional support, and practical support (Moreland & Carnwell, 1998). Academic support

was defined predominantly in relation to access to appropriate information, responsiveness and availability of faculty in a supportive role. Practical support was defined predominantly in relation to effective help with work tasks, housework and childcare. Emotional support was defined predominantly in terms of tolerance, cajoling and emotional reassurance by significant others (e.g. partners) when it was required.

A principle focus of this research has always been for the students to undertake the processes of inference ontologically (Taylor, 1998). That is, rather than impute needs to them, the individual students themselves are prompted to elucidate what is relevant and important to them at the current time and circumstances in which they complete the LSNQ. In the LSNQ model, the person identifies the need, and on reflection, considers to the extent that need is, for them, a 'want' (Scissons, 1982: 20). That is, the student wants that particular learning support need to be provided to a greater extent than it is currently. The instrument authors use an importance-performance system of measurement of the strength of the need/want (Hawes and Rao 1985, Johnson, Axen, Beebe, and Halvorson, 1988). Importance refers to the relevance of a learning support need (Do I have this need or not?), while the performance aspect refers to the current level of provision/satisfaction with a particular need that has been previously identified as important by and to the individual.

When we had the different types of learning support need, we needed also a way of providing them in a format supportive of the student. In doing this, we reviewed a number of approaches, for as Scissons (1982: 20) notes, "The process of assessing needs, and indeed the philosophical choice to assess needs at all, has ranged from the simple 'tell me what you want' approach to a more complex procedure where the present situation is described in some detail, and then compared to another set of circumstances in order to note very important discrepancies."

The word 'discrepancies' is important here. Students may perceive themselves to have a need, but for that need to be currently not be well addressed. Alternatively, the need may be there, but even if the level of current provision is low, the student may not deem the need to be sufficiently important to do anything about it.

Realizing the possible alternative sets of responses (see below), we have sought to provide the students with the opportunity to discriminate both the relative importance of a learning support need to them and the degree of importance of current levels of provision. At the same time, we wanted the process to be as simple as possible. Additionally, we wanted to provide the student with the opportunity to action plan how to overcome a highly felt discrepancy, even though we remain aware that, "Very little research has dealt with the problem of learner motivation to remediate identified needs regardless of how those needs have been identified." (Scissons, 1982: 20)

Summary of Literature

Most research focuses on support provided by the institution in the form of tutorials (Brindley and Maxim, 1990; Lawton, 1997). Moreover, most authors seem to agree that responsibility for providing support lies predominantly with individual faculty. Pym (1992), however, argues that definitions of support should recognize gender issues, such as other types of support offered from family and friends. Our research confirms Pym's (1992) belief that other forms of support are relevant for women distance learners, notwithstanding the importance of the academic support offered by the institution. In their earlier research into approaches to study in distance learning (Carnwell, 2000), three types of support needs emerged from interviews of twenty distance learning students. These were labelled Academic Support, Emotional Support and Practical Support.

Most of the literature on support for distance learners focuses on how support can be provided and the processes and strategies involved in doing so. The concept of need is equally important to that of support as it is students' conceptions of need and how they should be met which translates the different requirements for support into action, so enabling them to connect with faculty and other students. No research to date appears to have attempted to measure support needs of students quantitatively, in order to help students to diagnose their own support needs and therefore to develop their own strategies for dealing with them. Much is written in the literature about enabling students to become independent learners and the

need for empowerment in the student-faculty relationship. However, the very nature of the recommendations (by focusing on the skills of the faculty rather than the student) seems counter-productive.

The aims of our research reported here, therefore, were to:

- Elicit student perceptions of their learning support needs and perceptions of the support currently available; and
- Compare student perceptions of support in distance learning study at different institutions.

We anticipated that by enabling students to develop their own action plans, the control of the support process passes from the faculty to the student so that students become genuinely self-regulating and assertive.

Trying to keep the instrument as uncomplicated as possible, the authors have drawn upon the simplicity of the twenty statements approach (Rees and Nicholson, 1994) where all the key items should be focused down into 20 questions. In the end, the authors have exceeded that number by four due to the necessity to reflect the complexity of the different categories of learning support need (practical, emotional, and academic). While there is no significance attached to the numbering of their presentation, the background assumptions in developing the LSNQ have been as follows:

- The LSNQ must relate to the current biographical circumstances and experiences of the students.
- The LSNQ must involve development of a critical self-analytical perspective upon their situation and needs.
- The LSNQ must co-opt the students into participating in preparatory activities related to involvement in learning processes.
- The LSNQ must support the development and implementation of an action plan to address those learning support needs not currently met.
- The LSNQ Instrument must be as simple as possible.

- The LSNQ Instrument must be useful for subsequent periodic re-review.

Having given the above summary of the principles underlying the LSQN, we now turn to the comparison of the distance learning students with whom we have used the LSQN to date.

Methodology

In the Learning Support Needs Questionnaire (LSQN) the instrument authors utilized the Importance-Performance Analysis schema (Hawes and Rao, 1985) as it provides opportunities for students to rate the importance and current performance of something that is of consequence for them. If something is important to the student, but is not performed well (i.e. is not available) then the resulting situation is likely to be one of dissatisfaction. If something is not important, then the current level of performance of that factor is irrelevant to the student. Additionally, it can be suggested that where an institution puts significant resources into such an unimportant learning support need area, the result is a waste of resources.

Populations and samples

The first sample was comprised of 211 students who were enrolled in distance education courses at a mid-size comprehensive American university (Internet-based, CD-ROM, two way interactive video) to earn undergraduate hours in nursing or allied health courses. The students were sent the LSNQ questionnaire by mail and were at different stages of their program of studies when they received the questionnaire, a factor that may have affected the response rate. A reminder letter was sent two weeks later to increase the response rate.

The second sample consisted of 126 distance based nursing degree students enrolled in the UK. The questionnaire was distributed to them early on in their course and completed at the time of distribution. At the stage of completion of the questionnaire students were six weeks into their semester of study and thus had some familiarity with the support systems available to them. The immediate completion might have accounted for the high response rate (76.3%) although students were assured that participation in the research was entirely voluntary. For

the purpose of data analysis, the American students were labelled as group 1 and the UK distance learners were labelled as group 2.

The Method of Analysis of the Response Items

This article does not comment upon the action planning aspect of the LSNQ. The study instead concentrates upon the predefined items of which respondents, on a four-point scale, had to indicate the significance and current provision of each facet of the three different types of support. The sample consisted of two non-probability samples. The mean and median values of all variables were calculated for each of the groups, these being used subsequently to rank the items in order of significance for the respondents. Non-parametric analysis was carried out using a Mann-Whitney U test, as the sampling was non-probability and the data type ordinal.

Results

The data were analyzed in three separate stages. The first stage involved an analysis of significant differences between the two groups in relation to their perceptions of the *importance* of questionnaire items relating to the three types of support previously identified – practical support, emotional support, and academic support. A non-parametric analysis of the difference between the two groups (Mann Whitney U) was carried out for perceived availability and importance of all the items.

Table 1. Differences between the two groups in relation to perceived *importance* of support services

Items where UK students differed significantly from US students	***P value***
• Any opportunities for face-to-face contact with faculty	*P = 0.000*
• Faculty take a personal interest in me	*P = 0.005*
• Reassurance available to ensure that you are on the "right track"	*P=0.023*

There was agreement of the *importance* of the items between the two groups for all questions (see table 3 for a list of all questions) except for the 3 shown in Table 1. In each case, US

students attached a greater importance to these items than did students from the UK. All three items are specifically related to academic support and are therefore factors over which the institution, rather than the student, may have control.

The second stage of the analysis involved a comparison of the two groups in relation to their perception of the *availability* of the three types of support (Table 2).

Table 2 Differences between the two groups in perception of support services *available*.

Items where UK students differed significantly from US learners	***P value***
• Space for study identified	*P=0.028*
• Facilities (computer, books readily available)	*P=0.001*
• Provision of further information (e.g. articles sorted out)	*P=0.023*
• Time for study earmarked	*P=0.000*
• Domestic division of labor allows for study	*P=0.000*
• Non-interference (distractions) from others agreed	*P=0.001*
• Reassurance available from family and friends	*P=0.023*
• Confidence in own abilities to succeed academically	*P=0.035*
• Feelings of being daunted are not allowed to be destructive	*P=0.001*
• Opportunities for collaboration with fellow students	*P=0.000*
• Opportunities for face-to-face contact with faculty	*P=0.000*
• Clear guidance to study processes and assignments provided	*P=0.001*
• Overall guidance on course requirements provided a beginning of academic term	*P=0.024*
	P=0.021

Table 2 shows those items where there were statistically significant differences between the two groups where the distance learners in the UK had lower mean scores than did the their peers at the American college campus. The higher mean scores represent a more positive perception of the availability of the items relating to support provision for distance learners. The first six of the 13 items relate to practical support. Distance learners in the UK, for example, were significantly less confident in their own abilities ($p<0.01$) and were also less likely to have the interest of their partners/family ($p<0.01$). Several of these items relate to the provision of academic support by faculty in the form of accessibility and guidance.

The third stage of the analysis involved comparing the scores for perceived importance with those for perceived availability. The deficit between the perceived importance and perceived availability produced a 'degree of satisfaction' score, which was therefore calculated by subtracting the importance score from the availability rating. A negative score represents a significant needs gap.

Table 3 Differences between the two groups in (perception of) deficit between perceived importance and perceived availability of support services

Items where student in the UK differed significantly from learners in the US	***P value***
Time for study earmarked	*P=0.030*
Domestic division of labor allows for study	*P=0.001*
Non-interference (distractions) from others agreed	*P=0.000*
Feelings of being daunted are not allowed to be destructive	*P=0.031*
Opportunities for cooperation with fellow students clear	*P=0.011*
Opportunities for face-to-face contact with faculty clear	*P=0.007*
Overall guidance to student processes and assignments are provided	*P=0.028*

Table 3 is presented in three sections to represent the three types of support. Items in the top section represent practical support. Items in the middle represent emotional support and items in the bottom section represent academic support. These items collectively represent seven of 24 the items on the questionnaire. Surprisingly, the majority of the survey instrument items failed to show a statistically significant difference between the two groups in terms of satisfaction of perceived needs.

In all cases a needs gap was indicated for both groups. Students based in the US, however, were significantly more satisfied than those in a distance learning courses in the United Kingdom (see table 3). This applied to all three types of support.

Discussion of the Results

These results are both interesting and perplexing. In so far as we can theorize about the results, and particularly the greater degree of dissatisfaction of the distance learning students from the UK, it is posited that caution be exercised in the analysis and interpretive inferences of the data, and not claim a greater significance than the data merit. These particular results tend to suggest that some distance learners, because of the commitment inherent in securing sufficient time for study and reflection, have higher expectations of their course and learning experiences, and thus are more emphatic in their learning support needs being met.

Another way of conceptualizing the differences is that the higher levels of expectation that distance learning students have, perhaps because their very separation causes an elevation of their learning support needs expectations. Whatever the situation, it is recognized that this issue requires further investigation. Future inquiry should be focused in five specific areas:

1. Differing interpretations of the same concepts;
2. Learning Support Needs in the Life Cycle of Student Experience;
3. The Separateness of Campus / Home;
4. Variations in Cultural Capital; and
5. Larger Samples and Analysis

1. Differing interpretations of the same concepts

This item is comprised of two facets. Firstly, different researchers may interpret terms that are used in the LSNQ differently. In-depth interviews and analysis, to check if this assumption, are warranted. If the terminology used in the instrument are construed to have different meanings, then the authors will need to elicit more precise concepts, understanding and definitions of the different types of support in order to refine the LSNQ further.

Secondly, we are aware that, because of the restriction in sample size, we may not have exhausted the range of significant items that can be included in the three different types of learning support need that we have highlighted to date. In all probability, this will require

larger samples (see below), but also the use of other sophisticated statistical approaches such as factor analysis (Kline, 1994) and discriminant analysis (Klecka, 1980)

2. Learning Support Needs in the Life cycle of Student Experience

In this research the attempt was made to have broadly similar student samples. While both samples were nursing and/or allied health professions majors, and overwhelmingly women, we are aware that the results could possibly be affected by the stage that the student is currently at in the life cycle of both their professional and academic lives. These students were at different stages of their studies, the students having taken between one and five distance education courses. Also, the distance learning students were primarily upper level undergraduates who were well into courses in their majors.

It is quite possible that the UK students' concerns were greater, both in number and salience, at least partly because they were still becoming acclimated to distance learning, the changing technology, or other issues. These students may also have been unsure of the learning support facilities available to them because of their recent entrance to the University and first exposure to the distance learning medium. Opposed to this, many of the distance students, because of their stage of study, were already sufficiently experienced with studying at a distance and thus aware of current types and levels of learning support provision. The prior institutional experiences of the distance education students may partially account for their lower expectations, though an awareness of the very concept of distance education probably is a factor as well. Experience may well breed apathy towards learning support needs, especially if previous attempts to secure them have been rebuffed or proven unsuccessful.

Additionally, it may well be that students at different stages of their study careers, and studying different sorts of modules may have differing learning support needs. Simply put, a student taking an independent study project course online may desire more academic support from faculty than a student who is taking a course that specifically uses group work such as Action Learning Sets as the major form of student learning. Care should be taken, therefore,

in assuming that individual learning needs are either stable over time or across different study patterns. Neither is likely to be the case.

3. The Separateness of Campus / Home

A campus, by definition, consists of the grounds and collected resources of an institution dedicated to the promotion of learning (among other things). That being so, it perhaps should not be surprising that students who tele-commute to campus per se expect a higher quality of facility than they are able to create at home. In our view, therefore, the variations in satisfaction between the two categories of student (campus and distance education) may well be due, in part at least, to differing levels of expectation of facilities, and the elevation of expectation by virtue of distance.

4. Variations in Cultural Capital

In an earlier phase of development of the LSNQ, Moreland and Carnwell (2000) suggested that the response of a student towards the LSNQ might be dependent, in part at least, to the extent of the cultural capital of the students. It is suggested that it is possible to separate out two types of cultural capital. The first sort consists of the attitudes, values and beliefs that a person has as a result of their upbringing and subsequent biographical experiences. This cultural capital, for instance, may be of the kind that emphasizes 'individual responsibility and self-determination'. A person with such beliefs, in our view, is less likely to look outside themselves for their learning support needs, but to see themselves as responsible for their own plight. In such cases, it is likely that help will be sought only when a situation becomes perilous or likely to lead to unacceptable failure. Alternatively, a person who actively sees learning as a social process may well seek out and/or demand that their learning support needs be addressed and, if possible, met. The values and perspectives held by any student, therefore, are likely to be directly related to their responses to the LSNQ. While such an analysis has been conducted (Carnwell, 1998), it is likely that further research on the effect that this type of cultural capital has upon their responses to the items in the LSNQ will be necessary.

The second aspect of cultural capital consists of relational capital (Stanton-Salazar, 1997) Relational capital consists of the network of friends, relatives and acquaintances who may prove useful themselves directly (e.g. 'help with essays') or can make possible the accessing of facilities, including those resources capable of addressing the personal learning support needs of a person. This type of cultural capital is directly accessed in the LSNQ, particularly with regard to emotional support needs provided by significant others such as partners and spouses. We are aware, however, that we still need to do more work in this aspect of cultural capital in order to refine the LSNQ even further.

5. Larger Samples and Analysis

This point is perhaps the most-straight forward of all the points in our discussion. While we believe our results do have some significance for both the individuals concerned and higher education institutions, we are aware that the sample sizes are such as to make emphatic statistical inference a hazardous occupation. We need much larger samples, and more diverse samples, so that we can carry out further analysis that is not hampered by statistical failings. We are seeking to do this within our institution, but we would also be interested in collaborating with other researchers who wish to utilize our research instrument.

Although we collected the requisite data, for the purposes of this paper we did not compare the characteristics and preferences of campus-based students to their distance learning peers. Such comparisons have been done (Carnwell, 1999) and have proven quite useful in increasing awareness and attention to curriculum design and institutional support issues relevant to distance learning.

References

Bailey D and Moore, J (1989) Closing the distance: counselling at O.U. residential schools. *Journal of Guidance and Counselling*, 17 (3) 317-330

Brindley, J and Maxim, J (1990) Student Support Services: the case of a proactive approach. *Journal of Distance Education*, V (1) 66-70

Carnwell, R. (1998) *Approaches to Study in Part-time Distance Education in Higher Education: A Case Study of Community Nurses.* University of Wolverhampton: Unpublished PhD

Carnwell, R (1999) Distance education and the need for dialogue. *Open Learning*, 14 (1), 50-55.

Carnwell, R (2000) Approaches to study and their Impact on the Need for Support and Guidance in Distance Learning, *Open Learning*. 15 (2), 123-140.

Carnwell, R. And Moreland, N. (1997) Dual Tyrannies: Breaking the Chains of campus and distance learning. *Research in Post-Compulsory Education.* 2 (2), 165-178)

Harrison, Bruce, Jr Hardware/Software To Support Distance Learning Classes 6 p., In: Mid-South Instructional Technology Conference Proceedings (2nd, Murfreesboro, TN, April 6-8, (1997); see IR 019 485
http://www.mtsu.edu/~itconf/proceed97/harrison.html.

Hawes, J. M. And Rao, C. P. (1985) Using importance-performance analysis to develop HealthCare marketing strategies. *Journal of HealthCare Marketing.* 5 (4), pp. 19-25

Johnson, W. T. (1999) Library Support for Distance Learning. Community & Junior College Libraries. 8, (2), pp. 51-57.

Johnson, P. O., Axen, D.M., Beebe, B.F. And Halvorson, A. (1988) Using importance-performance analysis to define the RN role in discharge planning. *Journal of Nursing Quality Assurance*, 2, (4), pp. 75-77.

Klecka, W. R. (1980) *Discriminant Analysis.* London: Sage

Kline, P. (1994) *An Easy Guide to Factor Analysis.* London: Routledge

Kommers, P.A.M, Lenting, B.F, and van der Veer, G.G (1998) Distributed Collaborative Learning in a Telematic Context. Telematic Learning Support and its Potential for Collaborative Learning with New Paradigms and Conceptual Mapping Tools, *Educational Media International,* 35, (3), pp.100-105.

Lawton, S (1997) Supportive Learning in Distance Education, *Journal of Advanced Nursing*, 25, 1076-1083

Lebel, C (1989) Le support a l'etudiant en enseignement a distance. *Journal of Distance Education,* IV (2) 7-24

Martens, Rob. And Others (1996) Functions, Use and Effects of Embedded Support Devices in *Learning & Instruction*. 6, (1), p77-93 1996.

Moreland, N. And Carnwell, R. (1998) The Measurement and Implications of ICT Capability of Students Upon Entry to One University. in Szucs, A. and Wagner, A. (Eds.)(1998) *Universities in the Digital Age: Transformation, Innovation and Tradition*. Bologna: EDEN, Volume 2, pp. 588-595

Moreland, N And Carnwell, R. (2000) Co-opting Learners: addressing their learning support needs through a learning support needs questionnaire. Part One: the rationale and basis of the learning support needs questionnaire. *Research in Post-Compulsory Education.* 5 (3) pp. 173-191

Oppenheim, A. N. (1997) Questionnaire Design, Interviewing and Attitude Measurement. London: Pinter

Pym F. R. (1992) Women and Distance Education: a nursing perspective. *Journal of Advanced Nursing*. 17, pp. 383-389

Rees, A. and Nicholson, N. (1994) The Twenty Statements Test, in C. Casell and G. Symon (Eds)(1994) *Qualitative Methods in Organisational Research,* pp. 37-54. London: Sage

Runciman, W. G. (1966) *Relative Deprivation and Social Justice.* London: Paladin

Scissons, E. H. (1982), A Typology of Needs Assessment Definitions in Adult Education. *Adult Education*, 33 (1), pp. 20-28,

Simpson, O. (1993) Quality in distance learning support – some questions, a few points, no answers. *Open Learning,* June 1993. 61-63.

Stanton-Salazar, R. D. (1997) A Social Capital Framework for Understanding the Socialisation of Racial Minority Children and Youths. *Harvard Educational Review.* 67, pp. 1-39

Stark, S and Warne, T (1999) 'Connecting' the Distance: relational issues for participants in a distance learning programme. *Journal of Further and Higher Education*, 23 (3), 391-402

Steiner, D.L. And Norman, G.R., (1995) *Health Measurement Scales: a practical guide to their development and use.* (2nd Edition), Oxford: Oxford University Press. Sutherland, 1997)

Taylor, D. (1998) Social Identity and Social Policy: Engagements with Postmodern Theory. *Journal of Social Policy.* 27 (3), pp. 329-350.

Vowles, B (1990) Educational guidance. Conference Proceedings of student learning in the Open University – process and practice. Open University Press. Milton Keynes.

Bibliography

Bates, Tony. Technology, Open Learning, and Distance Education. London; New York: Routledge, 1995.

Bell, Julie Davis. Distance Learning: New Technology and New Potential. Denver, CO: National Conference of State Legislatures, 1991.

Brownson, Kenneth, and Raymond L. Harriman III. "Distance Education in the Twenty-First Century." Hospital Material Management Quarterly. Nov. 2000. pp. 64-72.

Burgess, William E. The Oryx Guide to Distance Learning: A Comprehensive Listing of Electronic and Other Media-Assisted Courses. Phoenix, AZ.: Oryx Press, 1997.

Corrigan, Dan. The Internet University: College Courses by Computer. Harwich, MA: Cape Software, 1996.

Feasley, Charles E. Serving Learners at a Distance: A Guide to Program Practices. Washington, D.C.: Association for the Study of Higher Education, 1983.

Garrison, D.R., and Doug Shale, ed. Education at a Distance: From Issues to Practice. Malabar, FL: R.E. Krieger Pub. Co., 1990.

Gibson, Chère Campbell, ed. Distance Learners in Higher Education: Institutional Responses for Quality Outcomes. Madison, Wis.: Atwood Pub., 1998.

Haworth, Karla. "Lawmakers Consider How Best to Provide More Aid to Distance-Education Students." Chronicle of Higher Education. Mar. 1998. pp. A38-41.

Hiltz, Starr Roxanne. The Virtual Classroom: Learning Without Limits Via Computer Networks. Norwood, N.J.: Ablex Pub. Corp., 1994.

Holmberg, Börje. Distance Education : A Survey & Bibliography. London: Kogan Page; New York: Nichols Pub. Co.,1977.

Holmberg, Börje. Theory and Practice of Distance Education. London; New York: Routledge, 1995.

Jayne, Elaine Anderson. "The Librarian as Bricoleur: Meeting the Needs of Distance Learners." Reference Librarian. 2000 Issue. pp. 161-71.

Lebowitz, Gloria. "Library services to distant students: An equity issue." Journal of Academic Librarianship. July 1997. pp. 303-9.

Lewis, Laurie, et al. Distance Education at Postsecondary Education Institutions, 1997-98 [microform]. Washington, DC: U.S. Dept. of Education, Office of Educational Research and Improvement, National Center for Education Statistics, 1999.

Lewis, Laurie. Distance Education in Higher Education Institutions [microform]. Washington, DC (555 New Jersey Ave., NW, Washington 20208-5574): U.S. Dept. of Education, Office of Educational Research and Improvement, National Center for Education Statistics, 1997.

Library of Congress. Copyright Office. Report on Copyright and Digital Distance Education. Washington, DC: U.S. Copyright Office: 1999.

Lockwood, Fred, ed. Open and Distance Learning Today. London; New York: Routledge, 1995.

Maddux, Cleborne D. Distance Education : A Selected Bibliography. Englewood Cliffs, N.J.: Educational Technology Publications, 1992.

Minoli, Daniel. Distance Learning Technology and Applications. Boston: Artech House, 1996.

Novotny, Jeanne, ed. Distance Education in Nursing. New York: Springer, 2000.

Schreiber, Deborah A. Distance Training: How Innovative Organizations are Using Technology to Maximize Learning and Meet Business Objectives. San Francisco: Jossey-Bass, 1998.

Schuyler, Gwyer, ed. Trends in Community College Curriculum. San Francisco: Jossey-Bass, 1999.

Slade, Alexander L. Library Services for Open and Distance Learning: The Third Annotated Bibliography. Englewood, CO: Libraries Unlimited, 2000.

Szalda-Petree, Ann, et al. A Certificate in Gerontology Using Distance Technology to Reach Learners in Rural Areas. Missoula, MT : Center for Continuing Education and Summer Programs, Department of Community and Government Studies, University of Montana, 1996.

United States Department of Housing and Urban Development. The HUD Training Academy Presents---Distance Learning. U.S. Dept. of Housing and Urban Development, 1996.

United States. Congress. House. Committee on Science. Subcommittee on Basic Research. The Internet, distance learning, and the future of the research university: Hearing before the Subcommittee on Basic Research of the Committee on Science, House of Representatives, One Hundred Sixth Congress, second session, May 9, 2000. Washington: U.S. G.P.O.: 2000.

United States. Congress. House. Committee on the Judiciary. Subcommittee on Courts and Intellectual Property. Intellectual property security registration and the report of the U.S. Copyright Office on copyright and digital distance education : hearing before the Subcommittee on Courts and Intellectual Property of the Committee on the Judiciary, One Hundred Sixth Congress, first session, June 24, 1999. Washington : U.S. G.P.O.: For sale by the U.S. G.P.O., Supt. of Docs., Congressional Sales Office, 2000.

United States. Congress. Senate. Committee on the Judiciary. The Copyright Office Report on copyright and digital distance education : hearing before the Committee on the Judiciary, United States Senate, One Hundred Sixth Congress, first session ... May 25, 1999. Washington : U.S. G.P.O.: 2000. (Distributed to some depository libraries in microfiche.)

University Continuing Education Association. Peterson's Guide to Distance Learning Programs. Princeton, New Jersey: Peterson's, 1999.

Van Dusen, Gerald C. Digital Dilemma: Issues of Access, Cost, and Quality in Media-Enhanced and Distance Education. San Francisco : Jossey-Bass, 2000.

Van Dusen, Gerald C. The Virtual Campus: Technology and Reform in Higher Education. Washington, DC: Graduate School of Education and Human Development, George Washington University, 1997.

Verduin, John R. Distance Education: The Foundations of Effective Practice. San Francisco: Jossey-Bass, 1991.

Voegel, George H., ed. Advances in Instructional Technology. San Francisco: Jossey-Bass, 1986.

Willis, Barry Donald, ed. Distance Education: Strategies and Tools. Englewood Cliffs, N.J.: Educational Technology Publications, 1994.